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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,950	03/17/2004	Douglas R. Dillon	IR3679CIP-DIV	4203
31684	7590	10/14/2005	EXAMINER	
ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222			ZEMEL, IRINA SOPJIA	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/802,950

Applicant(s)

DILLON ET AL.

Examiner

Irina S. Zemel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities: The first paragraph of the specification does not reflect the correct chain of priority.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/41189 to E.I. DU PONT DE NEMOURS AND COMPANY (hereinafter "DuPont").

DuPont discloses compositions comprising trans-1,2-dichloroethylene and cyclopentane. See abstract, page 1, lines 5-10, claims 1-4, etc. The reference expressly states that the compositions of the invention are suitable as foaming agents for polyurethanes. The invention as claimed in claims 13, 14, therefore, is fully anticipated by the disclosure of DuPont.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over DuPont in combination with US Patent 6,288,135 to Bement et al., (hereinafter "Bement").

The disclosure of the DuPont reference is discussed above. The DuPont reference does not disclose any other pentanes except for cyclopentanes as suitable for the foaming compositions taught by DuPont. Substitution of cyclopentane with n- or i-pentane or any combinations thereof would have been obvious from the disclosure of Bement who expressly teaches functional equivalency of any pentane or hexane (including c-, i-, or n-pentane) in blowing compositions for polyurethanes based on halogenated hydrocarbons. See, for example, column 1, lines 51-60.

The invention as claimed, thus would have been clearly obvious from the combined disclosure of the cited references absent showing of unexpected results that can be attributed to the claimed pentane isomers or mixtures.

Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,001,164 to Smith et al., (hereinafter "Smith") in combination with either one of US Patents 5,607,912 to Samejima et al., (hereinafter "Samejima") or 5,196,137 to Merchant (hereinafter "Merchant").

Smith discloses foam blowing agent compositions useful for production of polyurethane foams that comprise mixture of two organic compounds of different boiling points (a) and (b). Among suitable (a) components, pentane is expressly listed in column 3, line 25. The pentane genus comprises only three species, namely isopentane, cyclopentane or n-pentane (all with low boiling points), thus making each of

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the species clearly envisaged from the genus, as well as combinations or mixtures of any two or three species. Moreover, functional equivalence of pentanes as blowing agents for polyurethanes (and other polymers) is well known in the art (as evidenced, for example, by Samejima, column 3), and, thus either one of pentanes or their combination would have been obvious and expected to perform equally in the compositions disclosed by Smith. Smith further disclosed that as the components (b) discloroethylene and the like are suitable. See column 3, lines 28-54. While not specifically disclosing the trans isomer, functional equivalence if two isomers as high boiling point blowing agents is also well known in the art as evidence by, for example, either one of Samejima and Merchant (especially in combinations with low boiling point blowing agents), thus making use of the claimed trans isomer obvious with reasonable expectation of adequate results and absent showing of unexpected results. So far, the record contains no comparative examples or showing of unexpected results that can be attributed to any one of the claimed components alone or in combination.

The invention as claimed, thus, would have been obvious from the disclosure of the above cited references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irina S. Zemel  
Examiner  
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A handwritten signature in black ink, appearing to read 'Irina Zemel', written in a cursive style.

ISZ